WASHINGTON STUDENT ACHIEVEMENT COUNCIL
EDUCATION · OPPORTUNITY · RESULTS

Notification of Request for Authorization under the Degree-Granting Institutions Act

Date posted: June 6, 2014

Institution: Washington Engineering Institute

Current status: Authorized to offer degree programs at its campus in Bellingham

Nature of request: Authorization to offer two additional degree programs

Proposed programs: Associate of Applied Science in Mechanical Engineering Technology
Bachelor of Science in Mechanical Engineering Technology

Washington site where the program will be offered:
Washington Engineering Institute
1301 Fraser Street, Suite A3
Bellingham, WA 98229

Background:

Washington Engineering Institute is a private institution that has offered seven certificate programs, primarily in the area of engineering technology, since 2009 as licensed through the Workforce Training and Education Coordinating Board. It has been authorized to offer Civil Engineering Technology degree programs since July 27, 2012.

Nature of the review:

Prior to granting authorization to offer new degree programs in Washington State, the Washington Student Achievement Council/Degree Authorization reviews elements such as program outcomes, course requirements, method of course delivery, faculty credentials, and student services.

Additionally, the programs were reviewed by an external subject matter expert and the recommendations made have been incorporated into the programs.

The programs to be offered by Washington Engineering Institute appear to meet the requirements of the Degree-Granting Institutions Act.

Information on the additional programs can be found at the end of notice.

Timeline:

The Council will accept comments on this application until June 20, 2014.

Any individuals with knowledge that may indicate the institution and/or the program does not meet the authorization requirements of WAC 250-61 are requested to submit comments to: Degree Authorization.

If you would like to know more about the current law and regulations that govern the program, they can be found at the following links: the statute is RCW 28B.85 and the regulation is WAC 250-61.

917 Lakeridge Way SW
PO Box 43430
Olympia, WA 98504-3430
www.wsac.wa.gov
360.753.7800

Program Title:

Associate of Applied Science in Mechanical Engineering Technology

Program Objective and Outcomes:

"**Program Objective:** The associate degree program in Mechanical Engineering Technology will prepare graduates with knowledge, problem solving ability, and hands-on skills to enter careers in the design, installation, manufacturing, testing, evaluation, or maintenance of mechanical systems.
Graduates of the associate degree program have strengths in specifying, installing, fabricating, testing, documenting, operating, selling, or maintaining basic mechanical systems.
The Mechanical Engineering Technology discipline encompasses the areas of computer-aided drafting/design, manufacturing, analysis of engineering data, machine/mechanical design/analysis, conventional or alternative energy system design/analysis, maintenance, and heating, ventilation, and air.

Program Outcomes: Graduates of the associate degree program must demonstrate knowledge and technical competency, appropriate to the objectives of the program, to:

a. The ability to apply specific program principles to the specification, installation, fabrication, testing, operation, maintenance, sales, or documentation of basic mechanical systems.
b. Have an understanding of engineering materials, applied mechanics, and manufacturing methods
c. The ability to computer-aided draft emphasizing mechanical components and systems, as well as fundamentals of descriptive geometry, orthographic projection, sectioning, tolerancing and dimensioning, and basic computer aided drafting and design with technical depth in at least one of these areas
d. Have an understanding of the application of physics and engineering materials having an emphasis in applied mechanics, or in-depth application of physics having emphasis in mechanical components and design."

Number of Credits: 90 quarter credits

Mode of Delivery: Residential

Admission Requirements:

High School diploma or GED and completion of an entrance exam (to determine ability to benefit)

Required Courses:

Common Core General Education Courses: (20 credits total)

CADD 111	AutoCAD 2D Drawings	4
COMP 151	Spreadsheets for Engineering Modeling	3
ENGL 205	Technical Writing	3
MATH 141	Precalculus I – Algebra	5
MATH 142	Precalculus II – Trigonometry	5

Core Courses: (70 credits total)

CADD 113	AutoCAD Dimensioning & Tolerancing	4
CADD 115	AutoCAD Customization	4
INDE 201	Lean Manufacturing Standards	5
MECH 101	Manufacturing Industry Careers	4
MECH 102	Composites Laboratory	5
MECH 121	Metal Fabrication Safety and Tools	3
MECH 122	Metal Fabrication and Welding Lab	5
MECH 131	Rhino 3D Modeling Level 1	5
MECH 211	Solidworks Level 1	5
MECH 212	Solidworks Level 2	5
MECH 213	Solidworks Final Project	5
MECH 221	CNC, Laser Cutting, and 3D Printing Lab	5

MECH 222 Process Piping Design.....5
PENG 201 Hydro Power Project.....5
PENG 202 Wind Power Project.....5

Program Title:

Bachelor of Science in Mechanical Engineering Technology

Program Objective and Outcomes:

"Program Objective: The baccalaureate degree program in Mechanical Engineering Technology will prepare graduates with knowledge, problem solving ability, and hands-on skills to enter careers in the design, installation, manufacturing, testing, evaluation, or maintenance of mechanical systems.
Graduates of the baccalaureate degree program have strengths in the analysis, applied design, development, implementation, or oversight of more advanced mechanical systems and processes.
The Mechanical Engineering Technology discipline encompasses the areas of computer-aided drafting/design, manufacturing, analysis of engineering data, machine/mechanical design/analysis, conventional or alternative energy

Program Outcomes: Graduates of the baccalaureate degree program must demonstrate knowledge and technical competency, appropriate to the objectives of the program, to:
Outcomes same as associate degree program:

a. The ability to apply specific program principles to the specification, installation, fabrication, testing, operation, maintenance, sales, or documentation of basic mechanical systems.
b. Have an understanding of engineering materials, applied mechanics, and manufacturing methods
c. The ability to computer-aided draft emphasizing mechanical components and systems, as well as fundamentals of descriptive geometry, orthographic projection, sectioning, tolerancing and dimensioning, and basic computer aided drafting and design with technical depth in at least one of these areas
d. Have an understanding of the application of physics and engineering materials having an emphasis in applied mechanics, or in-depth application of physics having emphasis in mechanical components and design.

Outcomes additional to the baccalaureate degree program:

e. The ability to apply specific program principles to analysis, design, development, implementation, or oversight of more advanced mechanical systems or processes.
f. The ability to design machine elements, advanced drafting including current three dimensional computer representations as related to mechanical design, and manufacturing methods. Advanced proficiency must be demonstrated in at least three drafting / design related areas, consistent with the technical orientation of the program.
g. Have an understanding of the in-depth application of physics and engineering materials having emphasis in drafting, manufacturing, and design or mechanical components."

Number of Credits: 180 quarter credits

Mode of Delivery: Residential

Admission Requirements:
Completion of an AAS in Mechanical Engineering Technology – 90 credits

Required Courses:
Common Core General Education Courses: (20 credits total)
ECON 301 Engineering Economics 5
ENGL 301 Proposals and Grant Writing.....5
MATH 301 Calculus I – Differential Calculus Applications 5
MATH 302 Calculus II – Integral Calculus Applications 5

Core Courses: (45 credits total)

COMP 301	C for Engineers	5
ENGL 302	Technical Report Writing	5
ENGR 401	Engineering Mechanics – Statics I	5
ENGR 402	Engineering Mechanics – Statics II	5
ENGR 403	Engineering Mechanics – Dynamics I	5
INDE 401	Probability and Statistics for Engineering	5
PHYS 301	Applied Engineering Physics I	5
PHYS 302	Applied Engineering Physics II	5
PHYS 303	Applied Engineering Physics III	5

Electives: Students choose five from the following ten courses (25 credits total)

Industrial Engineering:

INDE 451	Plant Layout and Materials Handling	5
INDE 452	Engineering Quality Control	5
INDE 453	Production Management Systems	5

Structural Design:

MECH 451	Manufacturing Design	5
MECH 452	Finite Element Analysis Applications	5

Manufacturing Processes:

MECH 461	Manufacturing Materials	5
MECH 462	Manufacturing Processes	5
MECH 463	Manufacturing Systems	5

Patent Process:

PATA 421	Patent Process	5
PATA 422	Patent Drafting	5